

CHAPTER 3. WATER QUALITY OBJECTIVES

Section 13241, Division 7 of the California Water Code specifies that each Regional Water Quality Control Board shall establish water quality objectives which, in the Regional Board's judgment, are necessary for the reasonable protection of beneficial uses and for the prevention of nuisance.

Section 303 of the 1972 Amendments to the federal Water Pollution Control Act requires the State to submit to the Administrator of the U.S. Environmental Protection Agency (U.S. EPA) for approval, all new or revised water quality standards which are established for surface and ocean waters. Under federal terminology, water quality standards consist of beneficial uses enumerated in Chapter Two and water quality objectives contained in this chapter.

Water quality objectives contained herein are designed to satisfy all State and federal requirements.

As new information becomes available, the Regional Board will review the appropriateness of objectives contained herein. These objectives are subject to public hearing at least once during each three-year period following adoption of this plan for the purpose of review and modification as appropriate.

I. CONSIDERATIONS IN SELECTING WATER QUALITY OBJECTIVES

The aforementioned 1972 Amendments to the federal Water Pollution Control Act declare that a national goal is elimination of discharge of pollutants into navigable waters.

A prerequisite to water quality control planning is the establishment of a base or reference point. The base in this instance was various general and specific water quality criteria previously found acceptable for particular beneficial uses or selected sources of waste. Current technical guidelines, available historical data, and enforcement feasibility were given full consideration in formulating water quality objectives.

A distinction is made here between the terms "water quality objectives" and "water quality standards". Water quality objectives have been adopted by the State and, when applicable, extended as federal water quality standards. Water quality standards, previously mentioned in this chapter's introduction, pertain to navigable waters and become legally enforceable criteria when accepted by the U.S. EPA Regional Administrator.

Point and nonpoint water pollution sources described herein have the same meaning as defined in the federal Water Pollution Control Act. Point sources are waste loads from identifiable sources such as municipal discharges, industrial discharges, vessels, controllable storm waters, fish hatchery discharges, confined animal operations, and agricultural drains. Nonpoint sources are waste loads resulting from land use practices where wastes are not collected and disposed of in any readily identifiable manner. Examples include: urban drainage, agricultural runoff, road construction activities, mining, grassland management, logging and other harvest activities, and natural sources such as effects of fire, flood, and landslide. The distinction between point sources and diffuse sources is not always clear but generally applies to the practicality of waste load control.

Water quality objectives for the Central Coastal Basin satisfy State and federal requirements to protect waters for the beneficial uses in Chapter Two and are consistent with all existing statewide plans and policies.

II. WATER QUALITY OBJECTIVES

The water quality objectives which follow supersede and replace those contained in the 1967 Water Quality Control Policies; the Interim Water Quality Control Plan for the Central Coastal Basin adopted by the Regional Board in 1971, including all existing revisions; and the Water Quality Control Plan Report for the Central Coastal Basin, adopted by the Regional Board in 1974.

Controllable water quality shall conform to the water quality objectives contained herein. When other conditions cause degradation of water quality beyond the levels or limits established as water quality objectives, controllable conditions shall not cause further degradation of water quality.

Controllable water quality conditions are those actions or circumstances resulting from man's activities that may influence the quality of the waters of the State and that may be reasonably controlled.

Water quality objectives are considered to be necessary to protect those present and probable future beneficial uses enumerated in Chapter Two of this plan and to protect existing high quality waters of the State. These objectives will be achieved primarily through the establishment of waste discharge requirements and through implementation of this water quality control plan.

In setting waste discharge requirements, the Regional Board will consider the potential impact on beneficial uses within the area of influence of the discharge, the existing quality of receiving waters, and the appropriate water quality objectives. The Regional Board will make a finding of beneficial uses to be protected and establish waste discharge requirements to protect those uses and to meet water quality objectives.

Several water quality objectives listed herein originate from the California Code of Regulations, Title 22. If Title 22 concentrations are amended, Basin Plan objectives are automatically amended to correspond with the new regulations.

II.A. ANTI-DEGRADATION POLICY

Wherever the existing quality of water is better than the quality of water established herein as objectives, such existing quality shall be maintained unless otherwise provided by the provisions of the State Water Resources Control Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California," including any revisions thereto. A copy of this policy is included in the Appendix.

II.A.1. OBJECTIVES FOR OCEAN WATERS

The provisions of the State Board's "Water Quality Control Plan for Ocean Waters of California" (Ocean Plan), "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California" (Thermal Plan), and any revisions thereto shall apply in their entirety to affected waters of the basin. The Ocean and Thermal Plans shall also apply in their entirety to Monterey Bay and Carmel Bay. Copies of these plans are included verbatim in the Appendix.

In addition to provisions of the Ocean Plan and Thermal Plan, the following objectives shall also apply to all ocean waters, including Monterey and Carmel Bays:

Dissolved Oxygen

The mean annual dissolved oxygen concentration shall not be less than 7.0 mg/l, nor shall the minimum dissolved oxygen concentration be reduced below 5.0 mg/l at any time.

pH

The pH value shall not be depressed below 7.0, nor raised above 8.5.

Radioactivity

Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life; or result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal, or aquatic life.

II.A.2. OBJECTIVES FOR ALL INLAND SURFACE WATERS, ENCLOSED BAYS, AND ESTUARIES

II.A.2.a. GENERAL OBJECTIVES

The following objectives apply to all inland surface waters, enclosed bays, and estuaries of the basin:

Color

Waters shall be free of coloration that causes nuisance or adversely affects beneficial uses. Coloration attributable to materials of waste origin shall not be greater than 15 units or 10 percent above natural background color, whichever is greater.

Tastes and Odors

Waters shall not contain taste or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.

Floating Material

Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

Suspended Material

Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

Settleable Material

Waters shall not contain settleable material in concentrations that result in deposition of material that causes nuisance or adversely affects beneficial uses.

Oil and Grease

Waters shall not contain oils, greases, waxes, or other similar materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses.

Biostimulatory Substances

Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

Sediment

The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

Turbidity

Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

Increase in turbidity attributable to controllable water quality factors shall not exceed the following limits:

1. Where natural turbidity is between 0 and 50 Jackson Turbidity Units (JTU), increases shall not exceed 20 percent.
2. Where natural turbidity is between 50 and 100 JTU, increases shall not exceed 10 JTU.
3. Where natural turbidity is greater than 100 JTU, increases shall not exceed 10 percent.

Allowable zones of dilution within which higher concentrations will be tolerated will be defined for each discharge in discharge permits.

pH

For waters not mentioned by a specific beneficial use, the pH value shall not be depressed below 7.0 or raised above 8.5.

Dissolved Oxygen

For waters not mentioned by a specific beneficial use, dissolved oxygen concentration shall not be reduced below 5.0 mg/l at any time. Median values should not fall below 85 percent saturation as a result of controllable water quality conditions.

Temperature

Temperature objectives for Enclosed Bays and Estuaries are as specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California" including any revisions thereto. A copy of this plan is included in the Appendix.

Natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration in temperature does not adversely affect beneficial uses.

Toxicity

All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in, human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, toxicity bioassays of appropriate duration, or other appropriate methods as specified by the Regional Board.

Survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality conditions, shall not be less than that for the same water body in areas unaffected by the waste discharge or, when necessary, for other control water that is consistent with the requirements for "experimental water" as described in Standard Methods for the Examination of Water and Wastewater, latest edition. As a minimum, compliance with this objective shall be evaluated with a 96-hour bioassay.

In addition, effluent limits based upon acute bioassays of effluents will be prescribed where appropriate, additional numerical receiving water objectives for specific toxicants will be established as sufficient data

become available, and source control of toxic substances is encouraged.

The discharge of wastes shall not cause concentrations of unionized ammonia (NH₃) to exceed 0.025 mg/l (as N) in receiving waters.

Pesticides

No individual pesticide or combination of pesticides shall reach concentrations that adversely affect beneficial uses. There shall be no increase in pesticide concentrations found in bottom sediments or aquatic life.

For waters where existing concentrations are presently nondetectable or where beneficial uses would be impaired by concentrations in excess of nondetectable levels, total identifiable chlorinated hydrocarbon pesticides shall not be present at concentrations detectable within the accuracy of analytical methods prescribed in Standard Methods for the Examination of Water and Wastewater, latest edition, or other equivalent methods approved by the Executive Officer.

Chemical Constituents

Where wastewater effluents are returned to land for irrigation uses, regulatory controls shall be consistent with Title 22 of the California Code of Regulations and other relevant local controls.

Other Organics

Waters shall not contain organic substances in concentrations greater than the following:

Methylene Blue	
Activated Substances	0.2 mg/l
Phenols	0.1 mg/l
PCB's	0.3 µg/l
Phthalate Esters	0.002 µg/l

Radioactivity

Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life; or result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal, or aquatic life.

MUNICIPAL AND DOMESTIC SUPPLY (MUN)

pH

The pH value shall neither be depressed below 6.5 nor raised above 8.3.

Organic Chemicals

All inland surface waters, enclosed bays, and estuaries shall not contain concentrations of organic chemicals in excess of the limiting concentrations set forth in California Code of Regulations, Title 22, Chapter 15, Article 5.5, Section 64444.5, Table 5 and listed in Table 3-1.

Chemical Constituents

Waters shall not contain concentrations of chemical constituents in excess of the limits specified in California Code of Regulations, Title 22, Article 4, Chapter 15, Section 64435, Tables 2 and 3 as listed in Table 3-2.

Phenol

Waters shall not contain phenol concentrations in excess of 1.0 µg/l.

Radioactivity

Waters shall not contain concentrations of radionuclides in excess of the limits specified in California Code of Regulations, Title 22, Chapter 15, Article 5, Sections 64441 and 64443, Table 4.

AGRICULTURAL SUPPLY (AGR)

pH

The pH value shall neither be depressed below 6.5 nor raised above 8.3.

Dissolved Oxygen

Dissolved oxygen concentration shall not be reduced below 2.0 mg/l at any time.

Chemical Constituents

Waters shall not contain concentrations of chemical constituents in amounts which adversely affect the agricultural beneficial use. Interpretation of adverse effect shall be as derived from the University of California Agricultural Extension Service guidelines provided in Table 3-3.

In addition, waters used for irrigation and livestock watering shall not exceed concentrations for those chemicals listed in Table 3-4. Salt concentrations for irrigation waters shall be controlled through implementation of the anti-degradation policy to the effect that mineral constituents of currently or potentially usable waters shall not be increased. It is emphasized that no controllable water quality factor shall degrade the quality of any ground water resource or adversely affect long-term soil productivity.

Where wastewater effluents are returned to land for irrigation uses, regulatory controls shall be consistent with Title 22 of the California Code of Regulations and with relevant controls for local irrigation sources.

WATER CONTACT RECREATION (REC-1)

pH

The pH value shall neither be depressed below 6.5 nor raised above 8.3.

Bacteria

Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 ml, nor shall more than ten percent of total samples during any 30-day period exceed 400/100 ml.

NON-CONTACT WATER RECREATION (REC-2)

pH

The pH value shall neither be depressed below 6.5 nor raised above 8.3.

Table 3-1. Organic Concentrations Not to be Exceeded in Domestic or Municipal Supply

Constituent	Maximum Contaminant Level (MCL), mg/l*
(a) Chlorinated Hydrocarbons	
Endrin	0.0002
Lindane	0.004
Methoxychlor	0.1
Toxaphene	0.005
(b) Chlorophenoxys	
2,4-D	0.1
2,4,5-TP Silvex	0.01
(c) Synthetics	
Atrazine	0.003
Bentazon	0.018
Benzene	0.001
Carbon Tetrachloride	0.0005
Carbofuran	0.018
Chlordane	0.0001
1,2-Dibromo-3-chloropropane	0.0002
1,4-Dichlorobenzene	0.005
1,1-Dichloroethane	0.005
1,2-Dichloroethane	0.0005
cis-1,2-Dichloroethylene	0.006
trans-1,2-Dichloroethylene	0.01
1,1-Dichloroethylene	0.006
1,2-Dichloropropane	0.005
1,3-Dichloropropene	0.0005
Di(2-ethylhexyl) phthalate	0.004
Ethylbenzene	0.680
Ethylene Dibromide	0.00002
Glyphosate	0.7
Heptachlor	0.00001
Heptachlor epoxide	0.00001
Molinate	0.02
Monochlorobenzene	0.030
Simazine	0.010
1,1,2,2-Tetrachloroethane	0.001
Tetrachloroethylene	0.005
Thiobencarb	0.07
1,1,1-Trichloroethane	0.200
1,1,2-Trichloroethane	0.032
Trichloroethylene	0.005
Trichlorofluoromethane	0.15
1,1,2-Trichloro-1,2,2-Trifluoroethane	1.2
Vinyl Chloride	0.0005
*Xylenes	1.750

* MCL is for either a single isomer or the sum of the isomers.

Table 3-2 Inorganic and Fluoride Concentrations Not to be Exceeded in Domestic or Municipal Supply

Constituent	<u>Limiting Concentration ,mg/l</u>			
	Lower	Optimum	Upper	Maximum Contaminant Level
Temperature °F*	Fluoride			
53.7° and below	0.9	1.2	1.7	2.4
53.8° to 58.3°	0.8	1.1	1.5	2.2
58.4° to 63.8°	0.8	1.0	1.3	2.0
63.9° to 70.6°	0.7	0.9	1.2	1.8
70.7° to 79.2°	0.7	0.8	1.0	1.6
79.3° to 90.5°	0.6	0.7	0.8	1.4
Inorganic Chemicals				Maximum Contaminant Level
Aluminum				1
Arsenic				0.05
Barium				1
Cadmium				0.010
Chromium				0.05
Lead				0.05
Mercury				0.002
Nitrate (as NO ₃)				45
Selenium				0.01
Silver				0.05

*Annual Average of Maximum Daily Air Temperature, °F based on temperature data obtained for a minimum of five years.

Table 3-3. Guidelines for Interpretation of Quality of Water for Irrigation^a

Problem and Related Constituent	No Problem	Water Quality Guidelines	
		Increasing Problems	Severe
Salinity ^b			
EC of irrigation water, mmho/cm	<0.75	0.75 - 3.0	>3.0
Permeability			
EC of irrigation water, mmho/cm	>0.5	<0.5	<0.2
SAR, adjusted ^c	<6.0	6.0 - 9.0	>9.0
Specific ion toxicity from root absorption ^d			
Sodium (evaluate by adjusted SAR)	<3	3.0 - 9.0	>9.0
Chloride			
me/l	<4	4.0 - 10	>10
mg/l	<142	142 - 355	>355
Boron, mg/l	<0.5	0.5 - 2.0	2.0 - 10.0
Specific ion toxicity from foliar absorption ^e (sprinklers)			
Sodium			
me/l	<3.0	>3.0	--
mg/l	<69	>69	--
Chloride			
me/l	<3.0	>3.0	--
mg/l	<106	>106	--
Miscellaneous ^f			
NH ₄ - N, mg/l for sensitive crops	<5	5 - 30	>30
NO ₃ - N, mg/l for sensitive crops	<5	5 - 30	>30
HCO ₃ (only with overhead sprinklers)			
me/l	<1.5	1.5 - 8.5	>8.5
mg/l	<90	90 - 520	>520
pH	Normal range	6.5 - 8.4	--

a Interpretations are based on possible effects of constituents on crops and/or soils. Guidelines are flexible and should be modified when warranted by local experience or special conditions of crop, soil, and method of irrigation.

b Assumes water for crop plus needed water for leaching requirement (LR) will be applied. Crops vary in tolerance to salinity. Refer to tables for crop tolerance and LR. The mmho/cm x 640 = approximate total dissolved solids (TDS) in mg/l or ppm; mmho x 1,000 = micromhos.

c Adjusted SAR (sodium adsorption ratio) is calculated from a modified equation developed by U.S. Salinity Laboratory to include added effects of precipitation and dissolution of calcium in soils and related to CO₃ + HCO₃ concentrations.

To evaluate sodium (permeability) hazard: $\text{Adjusted SAR} = \text{Na} / [1/2 (\text{Ca} + \text{Mg})]^{1/2} [1 + (8.4 - \text{pH})]$.
Refer to Appendix for calculation assistance.

SAR can be reduced if necessary by adding gypsum. Amount of gypsum required (GR) to reduce a hazardous SAR to any desired SAR (SAR desired) can be calculated as follows:

$$GR = \left[\frac{2(\text{Na})^2}{\text{SAR}^2 \text{ desired}} (\text{Ca} + \text{Mg}) \right] 234$$

Note: Na and Ca + Mg should be in me/l. GR will be in lbs. of 100 percent gypsum per acre foot of applied water.

d Most tree crops and woody ornamentals are sensitive to sodium and chloride (use values shown). Most annual crops are not sensitive (use salinity tolerance tables). For boron sensitivity, refer to boron tolerance tables.

e Leaf areas wet by sprinklers (rotating heads) may show a leaf burn due to sodium or chloride absorption under low humidity/high evaporation conditions. (Evaporation increases ion concentration in water films on leaves between rotations of sprinkler heads.)

f Excess N may affect production or quality of certain crops; e.g., sugar beets, citrus, avocados, apricots, etc.
(1 mg/l NO₃ - N = 2.72 lbs. N/acre foot of applied water.) HCO₃ with overhead sprinkler irrigation may cause a white carbonate deposit to form on fruit and leaves.

Table 3-4. Water Quality Objectives for Agricultural Water Use

ELEMENT	<u>Maximum Concentration (mg/l)^a</u>	
	Irrigation supply ^b	Livestock watering
Aluminum	5.0	5.0
Arsenic	0.1	0.2
Beryllium	0.1	--
Boron	0.75	5.0
Cadmium	0.01	0.05
Chromium	0.10	1.0
Cobalt	0.05	1.0
Copper	0.2	0.5
Fluoride	1.0	2.0
Iron	5.0	--
Lead	5.0	0.1 ^c
Lithium	2.5 ^d	--
Manganese	0.2	--
Mercury	--	0.01
Molybdenum	0.01	0.5
Nickel	0.2	--
Nitrate + Nitrite	--	100
Nitrite	--	10
Selenium	0.02	0.05
Vanadium	0.1	0.10
Zinc	2.0	25

- a. Values based primarily on "Water Quality Criteria 1972" National Academy of Sciences-National Academy of Engineers, Environmental Study Board, ad hoc Committee on Water Quality Criteria furnished as recommended guidelines by University of California Agriculture Extension Service, January 7, 1974; maximum values are to be considered as 90 percentile values not to be exceeded.
- b. Values provided will normally not adversely affect plants or soils; no data available for mercury, silver, tin, titanium, and tungsten.
- c. Lead is accumulative and problems may begin at threshold value (0.05 mg/l).
- d. Recommended maximum concentration for irrigation citrus is 0.075 mg/l.

Bacteria

Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 2000/100 ml, nor shall more than ten percent of samples collected during any 30-day period exceed 4000/100 ml.

COLD FRESHWATER HABITAT (COLD)

pH

The pH value shall not be depressed below 7.0 or raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters.

Dissolved Oxygen

The dissolved oxygen concentration shall not be reduced below 7.0 mg/l at any time.

Temperature

At no time or place shall the temperature be increased by more than 5°F above natural receiving water temperature.

Chemical Constituents

Waters shall not contain concentrations of chemical constituents known to be deleterious to fish or wildlife in excess of the limits listed in Table 3-5.

WARM FRESHWATER HABITAT (WARM)

pH

The pH value shall not be depressed below 7.0 or raised above 8.5.

Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters.

Dissolved Oxygen

The dissolved oxygen concentration shall not be reduced below 5.0 mg/l at any time.

Temperature

At no time or place shall the temperature of any water be increased by more than 5°F above natural receiving temperature.

Chemical Constituents

Waters shall not contain concentrations of chemical constituents known to be deleterious to fish or wildlife in excess of the limits listed in Table 3-5.

FISH SPAWNING (SPWN)

Cadmium

Cadmium shall not exceed .003 mg/l in hard water or .0004 mg/l in soft water at any time. (Hard water is defined as water exceeding 100 mg/l CaCO₃.)

Dissolved Oxygen

The dissolved oxygen concentration shall not be reduced below 7.0 mg/l at any time.

MARINE HABITAT (MAR)

pH

The pH value shall not be depressed below 7.0 or raised above 8.5.

Changes in normal ambient pH levels shall not exceed 0.2 units.

Dissolved Oxygen

The dissolved oxygen concentration shall not be reduced below 7.0 mg/l at any time.

Chemical Constituents

Waters shall not contain concentrations of chemical constituents known to be deleterious to fish or wildlife in excess of limits listed in Table 3-6.

Table 3-5 Toxic Metal Concentrations not to be Exceeded in Aquatic Life Habitats, mg/l^{a,b}

Freshwater (COLD, WARM)		
METAL	HARD (> 100 mg/l CaCO ₃)	SOFT (< 100 mg/l CaCO ₃)
Cadmium ^c	.03	.004
Chromium	.05	.05
Copper	.03	.01
Lead	.03	.03
Mercury ^d	.0002	.0002
Nickel ^e	.4	.1
Zinc	.2	.004

- a. Based on limiting values recommended in the National Academy of Sciences-National Academy of Engineers "Water Quality Criteria 1972." Values are 90 percentile values except as noted in qualifying note "d."
- b. Revision of Table 3-5 is currently in progress by the Regional Board.
- c. Lower cadmium values not to be exceeded for crustaceans and waters designated SPWN are 0.003 mg/l in hard water and 0.0004 mg/l in soft water.
- d. Total mercury values should not exceed 0.05 µg/l as an average value; maximum acceptable concentration of total mercury in any aquatic organism is a total B.O.D. burden of 0.5 µg/l wet weight.
- e. Value cited as objective pertains to nickel salts (not pure metallic nickel).

Table 3-6. Toxic Metal Concentrations Not to be Exceeded in Marine Habitats, mg/l^a

METAL	MARINE (MAR)
Cadmium	.0002
Chromium	.05
Copper	.01
Lead	.01
Mercury ^c	.0001
Nickel ^d	.002
Zinc	.02

- Based on limiting values recommended in the National Academy of Sciences-National Academy of Engineers "Water Quality Criteria 1972." Values are 90 percentile values except as noted in qualifying note "c."
- Revision of Table 3-6 is currently in progress by the Regional Board.
- Total mercury values should not exceed 0.05 µg/l as an average value; maximum acceptable concentration of total mercury in any aquatic organism is a total B.O.D. burden of 0.05 µg/l net weight.
- Value cited as objective pertains to nickel salts (not pure metallic nickel).

SHELLFISH HARVESTING (SHELL)

Chromium

The maximum permissible value for waters designated SHELL shall be 0.01 mg/l.

Bacteria

At all areas where shellfish may be harvested for human consumption, the median total coliform concentration throughout the water column for any 30-day period shall not exceed 70/100 ml, nor shall more than ten percent of the samples collected during any 30-day period exceed 230/100 ml for a five-tube decimal dilution test or 330/100 ml when a three-tube decimal dilution test is used.

II.A.3. WATER QUALITY OBJECTIVES FOR SPECIFIC INLAND SURFACE WATERS, ENCLOSED BAYS AND ESTUARIES

Certain water quality objectives have been established for selected surface waters; these objectives are intended to serve as a water quality baseline for evaluating water quality management in the basin. Median values, shown in Table 3-7 for surface waters, are based on available data.

It must be recognized that the median values indicated in Table 3-7 are values representing gross areas of a water body. Specific water quality objectives for a particular area may not be directly related to the objectives indicated. Therefore, application of these objectives must be based upon consideration of the surface and ground water quality naturally present; i.e., waste discharge requirements must adhere to the previously stated objectives and issuance of requirements must be tempered by consideration of beneficial uses within the immediate influence of the discharge, the existing quality of receiving waters, and water quality objectives. Consideration of beneficial uses includes: (1) a specific enumeration of all beneficial uses potentially to be affected by the waste discharge, (2) a determination of the relative importance of competing beneficial uses, and (3) impact of the discharge on existing beneficial uses. The Regional Board will make a judgment as to the priority of dominant use and minimize the impact on competing uses while not allowing the discharge to violate receiving water quality objectives.

As part of the State's continuing planning process, data will be collected and numerical water quality objectives will be developed for those mineral and nutrient constituents where sufficient information is presently not available for the establishment of such objectives.

Table 3-7. Surface Water Quality Objectives, mg/l^a

Sub-Basin/Sub-Area	TDS	Cl	SO ₄	B	Na	
Santa Ynez						
Cachuma Reservoir	600	20	220	0.4	50	
Solvang	700	50	250	0.4	60	
Lompoc	1000	100	350	0.4	100	
Santa Maria						
Cuyama River (Near Garey)	900	50	400	0.3	70	
Sisquoc River (Near Garey)	600	20	250	0.2	50	
Estero Bay						
Santa Rosa Creek		500	50	80	0.2	50
Chorro Creek	500	50	50	0.2	50	
San Luis Obispo Creek	650	100	100	0.2	50	
Arroyo Grande Creek	800	50	200	0.2	50	
Salinas River						
Salinas River						
Above Bradley	250	20	100	0.2	20	
Above Spreckles	600	80	125	0.2	70	
Gabilan Tributary	300	50	50	0.2	50	
Diablo Tributary	1200	80	700	0.5	150	
Nacimiento River		200	20	50	0.2	20
San Antonio River	250	20	80	0.2	20	20
Carmel River	200	20	50	0.2	20	
Monterey Coastal						
Big Sur River	200	20	20	0.2	20	
Pajaro River						
at Chittenden	1000	250	250	1.0	200	
San Benito River	1400	200	350	1.0	250	
Llagas Creek	200	10	20	0.2	20	
Big Basin						
Boulder Creek	150	10	10	0.2	20	
Zayante Creek	500	50	100	0.2	40	
San Lorenzo River						
Above Bear Creek	400	60	80	0.2	50	
At Tait Street Check Dam		250	30	60	0.2	25

a Objectives shown are annual mean values. Objectives are based on preservation of existing quality or water quality enhancement believed attainable following control of point sources

A specific monthly mean objective for Nitrate (as NO₃) of 0.25 mg/l shall apply to both the upper and lower San Lorenzo River to protect beneficial uses from adverse biostimulatory effects. Specific biostimulant objectives for other surface waters will be added to this section in tabular form once they are determined from further studies.

II.A.4. OBJECTIVES FOR GROUND WATER

II.A.4.a. GENERAL OBJECTIVES

The following objectives apply to all ground waters of the basin.

Tastes and Odors

Ground waters shall not contain taste or odor producing substances in concentrations that adversely affect beneficial uses.

Radioactivity

Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life; or result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal, or aquatic life.

MUNICIPAL AND DOMESTIC SUPPLY (MUN)

Bacteria

The median concentration of coliform organisms over any seven-day period shall be less than 2.2/100 ml.

Organic Chemicals

Ground waters shall not contain concentrations of organic chemicals in excess of the limiting concentrations set forth in California Code of Regulations, Title 22, Chapter 15, Article 5.5, Section 64444.5, Table 5 and listed in Table 3-1.

Chemical Constituents

Ground waters shall not contain concentrations of chemical constituents in excess of the limits specified in California Code of Regulations, Title 22, Chapter 15, Article 4, Section 64435, Tables 2 and 3.

Radioactivity

Ground waters shall not contain concentrations of radionuclides in excess of the limits specified in California Code of Regulations, Title 22, Chapter 15, Article 5, Section 64443, Table 4.

AGRICULTURAL SUPPLY (AGR)

Ground waters shall not contain concentrations of chemical constituents in amounts that adversely affect such beneficial use. Interpretation of adverse effect shall be as derived from the University of California Agricultural Extension Service guidelines provided in Table 3-3.

In addition, water used for irrigation and livestock watering shall not exceed the concentrations for those chemicals listed in Table 3-4. No controllable water quality factor shall degrade the quality of any ground water resource or adversely affect long-term soil productivity. The salinity control aspects of ground water management will account for effects from all sources.

II.A.5. OBJECTIVES FOR SPECIFIC GROUND WATERS

Certain water quality objectives have been established for selected ground waters; these objectives are intended to serve as a water quality baseline for evaluating water quality management in the basin. The median values for ground waters are shown in Table 3-8.

Table 3-8. Median Ground Water Objectives, mg/l^a

Sub-basin/Sub-Area	TDS	Cl	SO ₄	B	Na	N _b
South Coast						
Goleta	1000	150	250	0.2	150	5
Santa Barbara	700	50	150	0.2	100	5
Carpinteria	700	100	150	0.2	100	7
Santa Ynez						
Santa Ynez	600	50	10	0.5	20	1
Santa Rita	1500	150	700	0.5	100	1
Lompoc Plain ^f	1250	250	500	0.5	250	2
Lompoc Upland ^f	600	150	100	0.5	100	2
Lompoc Terrace ^f	750	210	100	0.3	130	1
San Antonio Creek	600	150	150	0.2	100	5
Santa Maria ^c						
Upper Guadalupe ^f	1000 ^d	165	500 ^d	0.5	230	1.4 ^e
Lower Guadalupe ^f	1000 ^d	85	500 ^d	0.2	90	2.0 ^e
Lower Nipomo Mesa ^f	710	95	250	0.15	90	5.7 ^e
Orcutt ^f	740	65	300	0.1	65	2.3 ^e
Santa Maria ^f	1000 ^d	90	510	0.2	105	8.0 ^e
Cuyama Valley	1500	80	--	0.4	--	5
Soda Lake	e	e	e	e	e	e
Estero Bay						
Santa Rosa	700	100	80	0.2	50	5
Chorro	1000	250	100	0.2	50	5
San Luis Obispo	900	200	100	0.2	50	5
Arroyo Grande	800	100	200	0.2	50	10
Salinas River						
Upper Valley ^f	600	150	150	0.5	70	5
Upper Forebay ^f	800	100	250	0.5	100	5
Lower Forebay ^f	1500	250	850	0.5	150	8
180 foot Aquifer ^f	1500	250	600	0.5	250	1
400 foot Aquifer ^f	400	50	100	0.2	50	1
Paso Robles ^g						
Central Basin ^f	400	60	45	0.3	80	3.4
San Miguel ^f	750	100	175	0.5	105	4.5
Paso Robles ^f	1050	270	200	2.0	225	2.3
Templeton ^f	730	100	120	0.3	75	2.7
Atascadero ^f	550	70	85	0.3	65	2.3
Estrella ^f	925	130	240	0.75	170	3.2
Shandon	1390	430	1025 ^h	2.8	730	2.3
Pajaro River						
Hollister	1200	150	250	1.0	200	5
Tres Pinos	1000	150	250	1.0	150	5
Llagas	300	20	50	0.2	20	5
Big Basin						
Near Felton	100	20	10	0.2	10	1
Near Boulder Creek	250	30	50	0.2	20	5

a Objectives shown are median values based on data averages; objectives are based on preservation of existing quality or water quality enhancement believed attainable following control of point sources.

b Measured as Nitrogen

c Basis for objectives is in the "Water Quality Objectives for the Santa Maria Ground Water Basin Revised Staff Report, May 1985" and February 1986, Staff Report.

d These are maximum objectives in accordance with Title 22 of the Code of Regulations.

e Ground water basin currently exceeds usable mineral quality.

f Ground water basin boundary map available in appendix.

g Basis for objectives is in the report "A Study of the Paso Robles Ground Water Basin to Establish Best Management Practices and Establish Salt Objectives", Coastal Resources Institute, June 1993.

h Standard exceeds California Secondary Drinking Water Standards contained in Title 22 of the Code of Regulations. Water quality standard is based upon existing water quality. If water quality degradation occurs, the Regional Board may consider salt limits on appropriate discharges.

The restrictions specified for Table 3-7 are applicable to the values indicated in Table 3-8; i.e., the values are at best representative of gross areas only. Ground waters in the Upper Valley of the Salinas River Sub-basin have average Total Dissolved Solids (TDS) concentrations that range from 300 mg/l to over 3000 mg/l. Therefore, application of these objectives must be consistent with the objectives previously stated in this chapter and synchronously reflect the actual ground water quality naturally present. The Regional Board must afford full consideration to: (1) present and probable future beneficial uses affected by the waste discharge; (2) competing beneficial uses; (3) degree of impact on existing beneficial uses; (4) receiving water quality; and (5) water quality objectives, before adjudging priority of dominant use and promulgating waste discharge requirements.

As part of the State's continuing planning process, data will be collected and numerical water quality objectives will be developed for those mineral constituents where sufficient information is presently not available for the establishment of such objectives.